

Development of a Compact High-Resolution Imaging Spectrometer i (CHRIS)

Completed Technology Project (2017 - 2018)



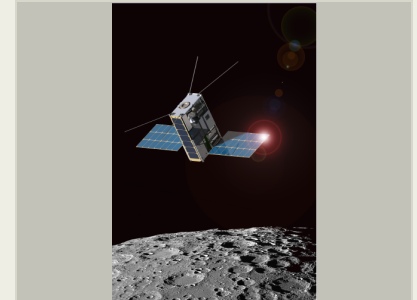
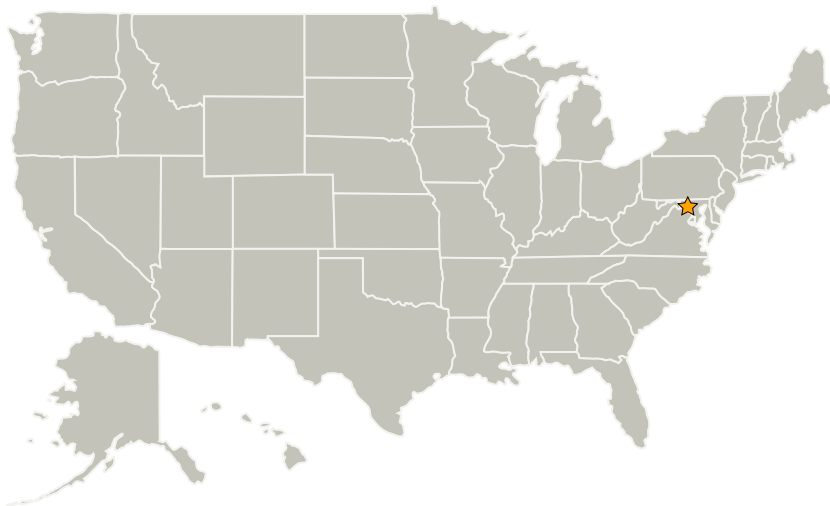
Project Introduction

This IRAD will develop a compact IR instrument that will enable future instrument and mission proposals. SmallSat, CubeSat, and UAV platforms provide opportunities to fly focused payloads to answer high priority science questions cost efficiently. The proposed effort will provide a lower cost alternative to improve competitiveness of future proposals.

Anticipated Benefits

An IR spectrometer has broad mission applications and the proposed development will provide ample opportunities for future mission proposals. For example, this instrument could be used on CubeSat missions through a SIMPLEx call, payload constrained opportunities such as the recent Korean Pathfinder Lunar Orbiter mission (SALMON) and the Asteroid Retrieval Mission, and Earth science opportunities to fly on a UAV and/or LEO CubeSat.

Primary U.S. Work Locations and Key Partners



Moon Southern Region with Shadow

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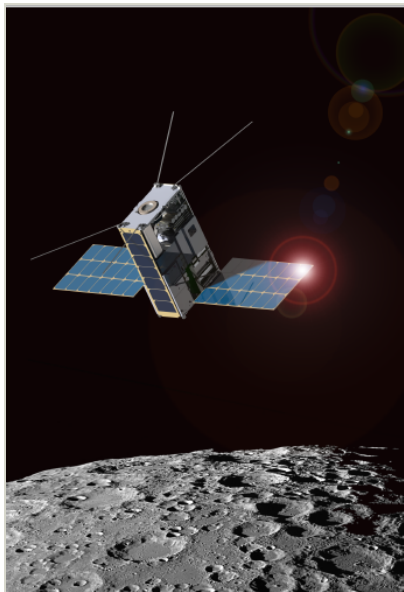
Organizations Performing Work	Role	Type	Location
★ Goddard Space Flight Center (GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland

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Images



Moon Southern Region with Shadow

Moon Southern Region with Shadow

(<https://techport.nasa.gov/image/28487>)

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Managers:

Brook Lakew

Michael J Amato

Principal Investigator:

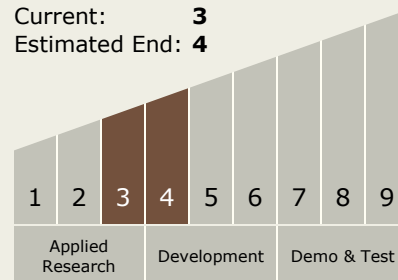
Terry A Hurford

Technology Maturity (TRL)

Start: 3

Current: 3

Estimated End: 4



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Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.1 Remote Sensing Instruments/Sensors
 - └ TX08.1.4 Microwave, Millimeter-, and Submillimeter-Waves

Target Destinations

The Moon, Earth, Others Inside the Solar System